

Key comparison CCAUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

x_i : result of measurements carried out by laboratory i (designated as M_i in the CCAUV.A-K1 Final Report)
 The quoted pressure sensitivity levels are the mean of measurements on two microphones, relative to the arithmetic mean value of all such measurement made in this key comparison.
 The nominal value is therefore 0 dB, the key comparison reference value.

u_i : combined standard uncertainty of x_i
 The uncertainty quoted in the table is $2u_i$, so that it can be given at a resolution consistent with the measured data.

| Frequency Lab i | 63 Hz | | 125 Hz | | 250 Hz | | 500 Hz | | 1000 Hz | | 1250 Hz | | 1600 Hz | | 2000 Hz | |
|----------------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB |
| NPL | 0.02 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.03 | 0.01 | 0.03 |
| CENAM | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| CSIR-NML | 0.01 | 0.05 | 0.01 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.01 | 0.05 |
| NMIA | - | - | - | - | 0.02 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | - | - | - | - | - | - |
| DPLA | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 |
| NMIJ | 0.00 | 0.05 | 0.00 | 0.04 | -0.01 | 0.04 | -0.01 | 0.04 | -0.01 | 0.04 | -0.02 | 0.04 | -0.01 | 0.04 | -0.02 | 0.04 |
| GUM | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| KRISS | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| NIST | -0.01 | 0.04 | 0.00 | 0.04 | -0.01 | 0.04 | 0.00 | 0.04 | -0.02 | 0.04 | -0.02 | 0.04 | -0.02 | 0.04 | -0.02 | 0.04 |
| NRC | -0.04 | 0.04 | -0.04 | 0.04 | -0.04 | 0.03 | -0.04 | 0.04 | -0.03 | 0.04 | -0.03 | 0.04 | -0.03 | 0.04 | -0.03 | 0.04 |
| PTB | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.03 | 0.01 | 0.03 |
| VNIIFTRI | -0.01 | 0.08 | 0.00 | 0.05 | 0.00 | 0.05 | 0.00 | 0.05 | 0.00 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 |

Key comparison CCAUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

x_i : result of measurements carried out by laboratory i (designated as M_i in the CCAUV.A-K1 Final Report)
 The quoted pressure sensitivity levels are the mean of measurements on two microphones, relative to the arithmetic mean value of all such measurement made in this key comparison.
 The nominal value is therefore 0 dB, the key comparison reference value.

u_i : combined standard uncertainty of x_i
 The uncertainty quoted in the table is $2u_i$, so that it can be given at a resolution consistent with the measured data.

| Frequency \Rightarrow Lab i \Downarrow | 2500 Hz | | 3150 Hz | | 4000 Hz | | 5000 Hz | | 6300 Hz | | 8000 Hz | |
|---|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB | x_i / dB | $2u_i$ / dB |
| NPL | 0.02 | 0.03 | 0.02 | 0.04 | 0.02 | 0.04 | 0.01 | 0.05 | 0.02 | 0.05 | 0.03 | 0.05 |
| CENAM | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.05 | 0.02 | 0.05 | 0.01 | 0.06 | -0.01 | 0.10 |
| CSIR-NML | 0.02 | 0.05 | 0.01 | 0.05 | 0.01 | 0.06 | 0.01 | 0.07 | 0.03 | 0.06 | 0.02 | 0.07 |
| NMIA | - | - | - | - | - | - | - | - | - | - | - | - |
| DPLA | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.04 | 0.03 | 0.05 | 0.01 | 0.06 |
| NMIJ | -0.03 | 0.04 | -0.03 | 0.04 | -0.04 | 0.04 | -0.05 | 0.05 | -0.06 | 0.06 | -0.05 | 0.06 |
| GUM | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.04 | 0.01 | 0.05 | 0.02 | 0.05 | 0.04 | 0.05 |
| KRISS | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.01 | 0.04 | 0.02 | 0.04 |
| NIST | -0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | -0.01 | 0.12 |
| NRC | -0.03 | 0.04 | -0.03 | 0.04 | -0.04 | 0.04 | -0.04 | 0.04 | -0.04 | 0.04 | -0.05 | 0.04 |
| PTB | 0.02 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.05 | 0.02 | 0.05 | -0.01 | 0.05 |
| VNIIFTRI | -0.02 | 0.05 | -0.02 | 0.05 | -0.03 | 0.06 | -0.03 | 0.09 | -0.02 | 0.14 | 0.02 | 0.23 |

Key comparison EUROMET.AUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

$x_{i\text{-EUR}}$: result of measurements carried out by laboratory i (designated as M_i in the EUROMET.AUV.A-K1 Final Report)
The quoted pressure sensitivity levels are relative to internal EUROMET reference values, computed as explained on page 3 of the EUROMET.AUV.A-K1 Final Report for each frequency, so the nominal value is 0 dB by design.

$u_{i\text{-EUR}}$: combined standard uncertainty of $x_{i\text{-EUR}}$
The uncertainty quoted in the table is $2u_{i\text{-EUR}}$, so that it can be given at a resolution consistent with the measured data.

| Frequency Lab i | 63 Hz | | 125 Hz | | 250 Hz | | 500 Hz | | 1000 Hz | | 1250 Hz | | 1600 Hz | | 2000 Hz | |
|----------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB |
| NPL | -0.01 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| DPLA | -0.03 | 0.04 | -0.01 | 0.03 | -0.01 | 0.03 | -0.01 | 0.03 | -0.01 | 0.03 | -0.01 | 0.03 | 0.00 | 0.03 | -0.01 | 0.03 |
| BEV | -0.02 | 0.06 | 0.00 | 0.03 | -0.01 | 0.03 | -0.01 | 0.03 | -0.01 | 0.03 | -0.02 | 0.03 | -0.01 | 0.03 | -0.02 | 0.03 |
| SP | 0.00 | 0.05 | 0.01 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 |
| IEN | -0.02 | 0.05 | 0.00 | 0.05 | -0.01 | 0.05 | 0.00 | 0.05 | -0.02 | 0.05 | -0.03 | 0.05 | -0.03 | 0.05 | -0.02 | 0.05 |
| PTB | 0.00 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.02 | 0.03 |
| UME | 0.03 | 0.05 | 0.03 | 0.05 | 0.03 | 0.05 | 0.02 | 0.05 | 0.05 | 0.05 | 0.04 | 0.05 | 0.06 | 0.05 | 0.07 | 0.05 |
| METAS | -0.04 | 0.03 | -0.02 | 0.03 | -0.01 | 0.03 | -0.02 | 0.03 | -0.02 | 0.03 | - | - | -0.02 | 0.03 | -0.04 | 0.03 |
| SMU | 0.02 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.02 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.02 | 0.04 |
| OMH | 0.03 | 0.07 | 0.04 | 0.07 | 0.04 | 0.07 | 0.02 | 0.07 | 0.00 | 0.07 | -0.01 | 0.07 | 0.00 | 0.07 | 0.00 | 0.07 |
| CMI | - | - | -0.03 | 0.03 | -0.04 | 0.03 | -0.03 | 0.03 | -0.04 | 0.03 | - | - | - | - | - | - |

Results obtained at 10 kHz are not displayed in this Table, because they cannot be linked to CCAUV.A-K1 results, for which no data were taken at this frequency. They can be found in Table 2 on page 4 of the EUROMET.AUV.A-K1 Final Report.

Key comparison EUROMET.AUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

$x_{i\text{-EUR}}$: result of measurements carried out by laboratory i (designated as M_i in the EUROMET.AUV.A-K1 Final Report)
The quoted pressure sensitivity levels are relative to internal EUROMET reference values, computed as explained on page 3 of the EUROMET.AUV.A-K1 Final Report for each frequency, so the nominal value is 0 dB by design.

$u_{i\text{-EUR}}$: combined standard uncertainty of $x_{i\text{-EUR}}$
The uncertainty quoted in the table is $2u_{i\text{-EUR}}$, so that it can be given at a resolution consistent with the measured data.

| Frequency \Rightarrow Lab i \Downarrow | 2500 Hz | | 3150 Hz | | 4000 Hz | | 5000 Hz | | 6300 Hz | | 8000 Hz | |
|---|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------|-----------------------------|
| | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB | $x_{i\text{-EUR}}$ / dB | $2u_{i\text{-EUR}}$ / dB |
| NPL | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.05 | 0.03 | 0.05 | 0.03 | 0.05 |
| DPLA | -0.01 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.02 | 0.04 | 0.02 | 0.05 | 0.00 | 0.06 |
| BEV | -0.02 | 0.03 | -0.02 | 0.03 | -0.02 | 0.03 | -0.03 | 0.04 | -0.06 | 0.05 | -0.09 | 0.06 |
| SP | -0.01 | 0.04 | 0.00 | 0.05 | 0.00 | 0.05 | 0.00 | 0.06 | 0.01 | 0.07 | 0.03 | 0.10 |
| IEN | -0.02 | 0.05 | -0.02 | 0.05 | -0.03 | 0.05 | -0.03 | 0.05 | -0.03 | 0.05 | 0.04 | 0.05 |
| PTB | 0.01 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.06 | 0.05 | 0.06 | 0.05 | 0.06 |
| UME | 0.05 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.03 | 0.10 | -0.01 | 0.10 | -0.03 | 0.10 |
| METAS | - | - | 0.00 | 0.03 | 0.00 | 0.03 | - | - | 0.01 | 0.05 | -0.01 | 0.04 |
| SMU | 0.02 | 0.04 | - | - | - | - | - | - | - | - | - | - |
| OMH | -0.02 | 0.07 | -0.01 | 0.07 | -0.02 | 0.07 | -0.03 | 0.07 | -0.03 | 0.07 | -0.04 | 0.07 |
| CMI | - | - | - | - | - | - | - | - | - | - | - | - |

Results obtained at 10 kHz are not displayed in this Table, because they cannot be linked to CCAUV.A-K1 results, for which no data were taken at this frequency. They can be found in Table 2 on page 4 of the EUROMET.AUV.A-K1 Final Report.

Key comparison APMP.AUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

x_{i-APMP} : result of measurements carried out by laboratory i

The quoted pressure sensitivity levels are relative to internal APMP reference values, computed as explained on page 16 of the APMP.AUV.A-K1 Final Report for each frequency, so the nominal value is 0 dB by design.

u_{i-APMP} : combined standard uncertainty of x_{i-APMP}

The uncertainty quoted in the table is $2u_{i-APMP}$, so that it can be given at a resolution consistent with the measured data.

| Frequency \Rightarrow Lab i \Downarrow | 63 Hz | | 125 Hz | | 250 Hz | | 500 Hz | | 1000 Hz | | 1250 Hz | | 1600 Hz | | 2000 Hz | |
|---|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
| | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB |
| CMS/ITRI | 0.00 | 0.04 | 0.02 | 0.04 | 0.02 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 |
| KRISS | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 |
| NIM | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 |
| NIMT | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 |
| NMIA | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 |
| NML-SIRIM | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 |
| NPLI | -0.02 | 0.07 | -0.02 | 0.07 | -0.01 | 0.07 | -0.02 | 0.07 | -0.01 | 0.07 | -0.01 | 0.07 | -0.01 | 0.07 | -0.01 | 0.07 |
| SCL | 0.00 | 0.05 | 0.00 | 0.05 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 |
| NMIJ | 0.01 | 0.05 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | -0.01 | 0.04 | -0.01 | 0.04 | -0.01 | 0.04 | -0.02 | 0.04 |

Key comparison APMP.AUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

x_{i-APMP} : result of measurements carried out by laboratory i

The quoted pressure sensitivity levels are relative to internal APMP reference values, computed as explained on page 16 of the APMP.AUV.A-K1 Final Report for each frequency, so the nominal value is 0 dB by design.

u_{i-APMP} : combined standard uncertainty of x_{i-APMP}

The uncertainty quoted in the table is $2u_{i-APMP}$, so that it can be given at a resolution consistent with the measured data.

| Frequency \Rightarrow Lab i \Downarrow | 2500 Hz | | 3150 Hz | | 4000 Hz | | 5000 Hz | | 6300 Hz | | 8000 Hz | |
|---|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
| | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB | x_{i-APMP} / dB | $2u_{i-APMP}$ / dB |
| CMS/ITRI | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.06 | 0.01 | 0.06 | -0.02 | 0.06 |
| KRISS | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.04 | 0.00 | 0.04 | -0.01 | 0.04 | -0.01 | 0.04 |
| NIM | -0.01 | 0.05 | 0.00 | 0.05 | 0.00 | 0.05 | -0.01 | 0.06 | -0.02 | 0.06 | -0.01 | 0.06 |
| NIMT | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.06 |
| NMIA | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.02 | 0.06 | 0.01 | 0.06 |
| NML-SIRIM | 0.01 | 0.03 | 0.01 | 0.03 | 0.00 | 0.04 | 0.01 | 0.05 | 0.03 | 0.06 | 0.04 | 0.07 |
| NPLI | -0.01 | 0.07 | 0.00 | 0.07 | 0.00 | 0.07 | 0.02 | 0.07 | 0.02 | 0.07 | 0.04 | 0.07 |
| SCL | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.05 | -0.01 | 0.06 | -0.01 | 0.06 |
| NMIJ | -0.02 | 0.04 | -0.03 | 0.04 | -0.03 | 0.04 | -0.04 | 0.05 | -0.04 | 0.06 | -0.02 | 0.06 |

Key comparison SIM.AUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

x_{i-SIM} : result of measurements carried out by laboratory i

The quoted pressure sensitivity levels are relative to internal SIM reference values, obtained as the arithmetic mean of all measurements available for each microphone, see on page 12 of the SIM.AUV.A-K1 Final Report, so the nominal value is 0 dB by design.

u_{i-SIM} : combined standard uncertainty of x_{i-SIM}

The transfer standards were calibrated by the pilot laboratory, NRC, before delivery and after return from a participating laboratory.

Microphone serial number 907045

| Frequency \Rightarrow Lab i \Downarrow | 125 Hz | | 250 Hz | | 500 Hz | | 1000 Hz | | 2000 Hz | | 4000 Hz | | 8000 Hz | |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB |
| NRC | 0.01 | 0.025 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.025 | -0.02 | 0.03 |
| NIST | 0.01 | 0.02 | -0.01 | 0.02 | -0.01 | 0.02 | -0.02 | 0.02 | -0.01 | 0.02 | 0.01 | 0.02 | 0.04 | 0.06 |
| NRC | 0.01 | 0.025 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 | 0.025 | -0.01 | 0.03 |
| CENAM | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.025 | 0.02 | 0.025 | 0.00 | 0.025 | 0.04 | 0.05 |
| NRC | 0.01 | 0.025 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.025 | -0.01 | 0.03 |
| INMETRO | -0.05 | 0.025 | -0.04 | 0.025 | -0.04 | 0.025 | -0.05 | 0.025 | -0.05 | 0.025 | -0.05 | 0.035 | -0.01 | 0.055 |
| NRC | 0.00 | 0.025 | 0.00 | 0.01 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.025 | 0.00 | 0.03 |
| INTI | -0.01 | 0.025 | -0.02 | 0.025 | -0.01 | 0.025 | -0.01 | 0.025 | -0.01 | 0.025 | -0.02 | 0.05 | -0.02 | 0.05 |
| NRC | 0.00 | 0.025 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.025 | -0.01 | 0.03 |

Key comparison SIM.AUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P
 NOMINAL VALUE : 0 dB

x_{i-SIM} : result of measurements carried out by laboratory i
 The quoted pressure sensitivity levels are relative to internal SIM reference values, obtained as the arithmetic mean of all measurements available for each microphone, see on page 12 of the SIM.AUV.A-K1 Final Report, so the nominal value is 0 dB by design.

u_{i-SIM} : combined standard uncertainty of x_{i-SIM}

The transfer standards were calibrated by the pilot laboratory, NRC, before delivery and after return from a participating laboratory.

Microphone serial number 1734004

| Frequency \Rightarrow Lab i \Downarrow | 125 Hz | | 250 Hz | | 500 Hz | | 1000 Hz | | 2000 Hz | | 4000 Hz | | 8000 Hz | |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB | x_{i-SIM} / dB | u_{i-SIM} / dB |
| NRC | 0.00 | 0.025 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.025 | -0.01 | 0.03 |
| NIST | 0.01 | 0.02 | 0.00 | 0.02 | -0.01 | 0.02 | -0.02 | 0.02 | -0.01 | 0.02 | 0.01 | 0.02 | 0.04 | 0.06 |
| NRC | 0.01 | 0.025 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.025 | -0.01 | 0.03 |
| CENAM | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 | 0.025 | 0.00 | 0.025 | 0.00 | 0.025 | 0.00 | 0.05 |
| NRC | -0.01 | 0.025 | 0.00 | 0.01 | 0.01 | 0.02 | 0.00 | 0.02 | 0.01 | 0.02 | 0.01 | 0.025 | 0.00 | 0.03 |
| INMETRO | -0.02 | 0.025 | -0.02 | 0.025 | -0.01 | 0.025 | 0.00 | 0.025 | -0.02 | 0.025 | -0.02 | 0.035 | 0.00 | 0.055 |
| NRC | 0.00 | 0.025 | 0.00 | 0.01 | -0.01 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.025 | 0.00 | 0.03 |
| INTI | 0.01 | 0.025 | 0.01 | 0.025 | 0.01 | 0.025 | 0.01 | 0.025 | 0.01 | 0.025 | 0.01 | 0.05 | 0.00 | 0.05 |
| NRC | 0.00 | 0.025 | 0.00 | 0.01 | -0.01 | 0.02 | 0.00 | 0.02 | 0.00 | 0.02 | 0.00 | 0.025 | -0.01 | 0.03 |

Key comparison APMP.AUV.A-K1.1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

$x_{i-APMP-K1.1}$: result of measurements carried out by KIM-LIPI obtained as the difference between KRISS and KIM-LIPI

$U_{i-APMP-K1.1}$: Expanded uncertainty of $x_{i-APMP-K1.1}$

| Frequency \Rightarrow Lab i \Downarrow | 63 Hz | | 125 Hz | | 250 Hz | | 500 Hz | | 1000 Hz | | 1250 Hz | | 1600 Hz | | 2000 Hz | |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB | $x_{i-APMP-K1.1}$ / dB | $U_{i-APMP-K1.1}$ / dB |
| KIM-LIPI | 0.00 | 0.08 | 0.01 | 0.08 | 0.01 | 0.08 | 0.00 | 0.08 | 0.01 | 0.07 | 0.01 | 0.08 | 0.01 | 0.08 | 0.01 | 0.08 |

Key comparison APMP.AUV.A-K1.1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

$x_{i-APMP.K1.1}$: result of measurements carried out by KIM-LIPI obtained as the difference between KRISS and KIM-LIPI

$U_{i-APMP.K1.1}$: Expanded uncertainty of $x_{i-APMP.K1.1}$

| Frequency \Rightarrow Lab i \Downarrow | 2500 Hz | | 3150 Hz | | 4000 Hz | | 5000 Hz | | 6300 Hz | | 8000 Hz | |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | $x_{i-APMP.K1.1}$ / dB | $U_{i-APMP.K1.1}$ / dB | $x_{i-APMP.K1.1}$ / dB | $U_{i-APMP.K1.1}$ / dB | $x_{i-APMP.K1.1}$ / dB | $U_{i-APMP.K1.1}$ / dB | $x_{i-APMP.K1.1}$ / dB | $U_{i-APMP.K1.1}$ / dB | $x_{i-APMP.K1.1}$ / dB | $U_{i-APMP.K1.1}$ / dB | $x_{i-APMP.K1.1}$ / dB | $U_{i-APMP.K1.1}$ / dB |
| KIM-LIPI | 0.01 | 0.08 | 0.02 | 0.09 | 0.01 | 0.10 | 0.02 | 0.11 | 0.02 | 0.11 | 0.05 | 0.12 |

Key comparison COOMET.AUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1F

NOMINAL VALUE : 0 dB

x_{i-coo} : result of measurements carried out by laboratory i

u_{i-coo} : combined standard uncertainty of x_{i-coo}

| Lab i → Frequency ↓ | Microphone 4160.2302519 | | | | | | | | | | Microphone 4160.2302521 | | | | | | | | | |
|--------------------------|-------------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|-------------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| | PTB | | GUM | | UME | | SMU | | VNIIFTRI | | PTB | | GUM | | UME | | SMU | | VNIIFTRI | |
| | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB | x_{i-coo} / dB | $2u_{i-coo}$ / dB |
| 63 Hz | -26.88 | 0.03 | -26.90 | 0.03 | -26.89 | 0.06 | -26.88 | 0.04 | -26.93 | 0.06 | -26.88 | 0.03 | -26.89 | 0.03 | -26.90 | 0.06 | -26.87 | 0.04 | -26.90 | 0.06 |
| 80 Hz | -26.89 | 0.03 | -26.91 | 0.03 | -26.89 | 0.06 | -26.90 | 0.04 | -26.94 | 0.05 | -26.89 | 0.03 | -26.90 | 0.03 | -26.90 | 0.06 | -26.89 | 0.04 | -26.92 | 0.05 |
| 100 Hz | -26.91 | 0.03 | -26.93 | 0.03 | -26.91 | 0.06 | -26.93 | 0.04 | -26.95 | 0.04 | -26.90 | 0.03 | -26.91 | 0.03 | -26.90 | 0.06 | -26.90 | 0.04 | -26.93 | 0.04 |
| 125 Hz | -26.91 | 0.03 | -26.93 | 0.03 | -26.91 | 0.06 | -26.93 | 0.04 | -26.96 | 0.04 | -26.91 | 0.03 | -26.92 | 0.03 | -26.91 | 0.06 | -26.91 | 0.04 | -26.94 | 0.04 |
| 160 Hz | -26.92 | 0.03 | -26.94 | 0.03 | -26.92 | 0.06 | -26.94 | 0.04 | -26.97 | 0.04 | -26.91 | 0.03 | -26.93 | 0.03 | -26.92 | 0.06 | -26.92 | 0.04 | -26.95 | 0.04 |
| 200 Hz | -26.93 | 0.03 | -26.95 | 0.03 | -26.94 | 0.06 | -26.95 | 0.04 | -26.98 | 0.04 | -26.92 | 0.03 | -26.94 | 0.03 | -26.92 | 0.06 | -26.93 | 0.04 | -26.95 | 0.04 |
| 250 Hz | -26.93 | 0.03 | -26.95 | 0.03 | -26.94 | 0.06 | -26.95 | 0.04 | -26.98 | 0.04 | -26.92 | 0.03 | -26.94 | 0.03 | -26.93 | 0.06 | -26.94 | 0.04 | -26.96 | 0.04 |
| 315 Hz | -26.94 | 0.03 | -26.95 | 0.03 | -26.94 | 0.06 | -26.96 | 0.04 | -26.98 | 0.04 | -26.93 | 0.03 | -26.94 | 0.03 | -26.94 | 0.06 | -26.94 | 0.04 | -26.96 | 0.04 |
| 400 Hz | -26.94 | 0.03 | -26.97 | 0.03 | -26.94 | 0.06 | -26.96 | 0.04 | -26.99 | 0.04 | -26.93 | 0.03 | -26.95 | 0.03 | -26.93 | 0.06 | -26.94 | 0.04 | -26.96 | 0.04 |
| 500 Hz | -26.94 | 0.03 | -26.97 | 0.03 | -26.94 | 0.06 | -26.96 | 0.04 | -26.99 | 0.04 | -26.93 | 0.03 | -26.95 | 0.03 | -26.93 | 0.06 | -26.94 | 0.04 | -26.96 | 0.04 |
| 630 Hz | -26.94 | 0.03 | -26.96 | 0.03 | -26.93 | 0.06 | -26.96 | 0.04 | -26.98 | 0.04 | -26.92 | 0.03 | -26.95 | 0.03 | -26.91 | 0.06 | -26.94 | 0.04 | -26.96 | 0.04 |
| 800 Hz | -26.93 | 0.03 | -26.95 | 0.03 | -26.92 | 0.06 | -26.95 | 0.04 | -26.98 | 0.04 | -26.91 | 0.03 | -26.94 | 0.03 | -26.91 | 0.06 | -26.93 | 0.04 | -26.94 | 0.04 |
| 1000 Hz | -26.92 | 0.03 | -26.95 | 0.03 | -26.93 | 0.06 | -26.93 | 0.04 | -26.96 | 0.04 | -26.90 | 0.03 | -26.93 | 0.03 | -26.90 | 0.06 | -26.91 | 0.04 | -26.93 | 0.04 |
| 1250 Hz | -26.90 | 0.03 | -26.93 | 0.03 | -26.92 | 0.06 | -26.91 | 0.04 | -26.94 | 0.04 | -26.87 | 0.03 | -26.90 | 0.03 | -26.89 | 0.06 | -26.88 | 0.04 | -26.90 | 0.04 |
| 1600 Hz | -26.86 | 0.03 | -26.89 | 0.03 | -26.88 | 0.06 | -26.88 | 0.04 | -26.90 | 0.04 | -26.82 | 0.03 | -26.85 | 0.03 | -26.84 | 0.06 | -26.83 | 0.04 | -26.85 | 0.04 |
| 2000 Hz | -26.80 | 0.03 | -26.83 | 0.03 | -26.83 | 0.06 | -26.82 | 0.04 | -26.84 | 0.04 | -26.75 | 0.03 | -26.77 | 0.03 | -26.74 | 0.06 | -26.76 | 0.04 | -26.77 | 0.04 |
| 2500 Hz | -26.72 | 0.03 | -26.75 | 0.04 | -26.75 | 0.06 | -26.74 | 0.05 | -26.75 | 0.04 | -26.64 | 0.03 | -26.67 | 0.04 | -26.66 | 0.06 | -26.65 | 0.05 | -26.66 | 0.04 |
| 3150 Hz | -26.59 | 0.03 | -26.62 | 0.04 | -26.60 | 0.07 | - | - | -26.61 | 0.04 | -26.48 | 0.03 | -26.50 | 0.04 | -26.48 | 0.07 | - | - | -26.49 | 0.04 |
| 4000 Hz | -26.43 | 0.03 | -26.44 | 0.04 | -26.45 | 0.07 | - | - | -26.43 | 0.04 | -26.26 | 0.03 | -26.26 | 0.04 | -26.27 | 0.07 | - | - | -26.26 | 0.04 |
| 5000 Hz | -26.30 | 0.05 | -26.31 | 0.05 | -26.31 | 0.07 | - | - | -26.28 | 0.05 | -26.05 | 0.05 | -26.05 | 0.05 | -26.05 | 0.07 | - | - | -26.04 | 0.05 |
| 6300 Hz | -26.42 | 0.05 | -26.41 | 0.05 | -26.42 | 0.08 | - | - | -26.37 | 0.06 | -26.07 | 0.05 | -26.07 | 0.05 | -26.09 | 0.08 | - | - | -26.06 | 0.06 |
| 8000 Hz | -27.43 | 0.05 | -27.39 | 0.05 | -27.37 | 0.09 | - | - | -27.34 | 0.08 | -27.15 | 0.05 | -27.11 | 0.05 | -27.11 | 0.09 | - | - | -27.10 | 0.08 |
| 10000 Hz | -30.01 | 0.08 | -29.91 | 0.09 | -29.94 | 0.12 | - | - | -29.82 | 0.13 | -30.01 | 0.08 | -29.94 | 0.09 | -29.94 | 0.12 | - | - | -29.93 | 0.13 |

Key comparison COOMET.AUV.A-K1.1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1F
 NOMINAL VALUE : 0 dB

$x_{i-COO.1}$: result of measurements carried out by laboratory *i*

$u_{i-COO.1}$: combined standard uncertainty of $x_{i-COO.1}$

Microphone 4160.2302520

| Lab <i>i</i> Frequency | PTB | | DNDI | |
|---------------------------|-----------------------|------------------------|-----------------------|------------------------|
| | $x_{i-COO.1}$ / dB | $2u_{i-COO.1}$ / dB | $x_{i-COO.1}$ / dB | $2u_{i-COO.1}$ / dB |
| 63 Hz | -26.90 | 0.03 | -26.90 | 0.05 |
| 80 Hz | -26.91 | 0.03 | -26.91 | 0.05 |
| 100 Hz | -26.92 | 0.03 | -26.92 | 0.05 |
| 125 Hz | -26.93 | 0.03 | -26.93 | 0.05 |
| 160 Hz | -26.94 | 0.03 | -26.94 | 0.05 |
| 200 Hz | -26.94 | 0.03 | -26.95 | 0.05 |
| 250 Hz | -26.95 | 0.03 | -26.95 | 0.05 |
| 315 Hz | -26.95 | 0.03 | -26.95 | 0.05 |
| 400 Hz | -26.95 | 0.03 | -26.96 | 0.05 |
| 500 Hz | -26.95 | 0.03 | -26.96 | 0.04 |
| 630 Hz | -26.95 | 0.03 | -26.96 | 0.04 |
| 800 Hz | -26.95 | 0.03 | -26.95 | 0.04 |
| 1000 Hz | -26.93 | 0.03 | -26.94 | 0.04 |
| 1250 Hz | -26.91 | 0.03 | -26.93 | 0.04 |
| 1600 Hz | -26.88 | 0.03 | -26.89 | 0.04 |
| 2000 Hz | -26.83 | 0.03 | -26.84 | 0.04 |
| 2500 Hz | -26.76 | 0.03 | -26.77 | 0.04 |
| 3150 Hz | -26.65 | 0.03 | -26.66 | 0.04 |
| 4000 Hz | -26.52 | 0.03 | -26.53 | 0.04 |
| 5000 Hz | -26.42 | 0.05 | -26.44 | 0.05 |
| 6300 Hz | -26.57 | 0.05 | -26.59 | 0.06 |
| 8000 Hz | -27.54 | 0.05 | -27.57 | 0.08 |
| 10000 Hz | -30.09 | 0.08 | -30.01 | 0.12 |

Key comparison CCAUV.A-K1

MEASURAND : Pressure sensitivity level of laboratory standard microphone type LS1P

NOMINAL VALUE : 0 dB

The key comparison values, x_R (designated as M_{ref} in the CCAUV.A-K1 Final Report), are obtained as the arithmetic means of all measurements, normalized to zero decibels, at each frequency.

At a given frequency, the combined standard uncertainty, u_R , of the key comparison reference value is determined by propagating the individual measurement uncertainties.

| Frequency | x_R | u_R |
|-----------|-------|-------|
| / Hz | / dB | / dB |
| 63 | 0.00 | 0.006 |
| 125 | 0.00 | 0.006 |
| 250 | 0.00 | 0.005 |
| 500 | 0.00 | 0.005 |
| 1000 | 0.00 | 0.005 |
| 1250 | 0.00 | 0.006 |
| 1600 | 0.00 | 0.006 |
| 2000 | 0.00 | 0.006 |
| 2500 | 0.00 | 0.006 |
| 3150 | 0.00 | 0.006 |
| 4000 | 0.00 | 0.006 |
| 5000 | 0.00 | 0.007 |
| 6300 | 0.00 | 0.008 |
| 8000 | 0.00 | 0.011 |

At a given frequency, the degree of equivalence of each laboratory with respect to the key comparison reference value is given by a pair of terms: $D_i = (x_i - x_R)$, and its expanded uncertainty ($k = 2$), $U_i = 2[(1 - 2/n)u_i^2 + u_R^2]^{1/2}$, where n is the number of participants, both expressed in dB.

At a given frequency, the degree of equivalence between two laboratories i and j is given by a pair of terms: $D_{ij} = (x_i - x_j)$, and its expanded uncertainty ($k = 2$), $U_{ij} = 2(u_i^2 + u_j^2)^{1/2}$, both expressed in dB.

The full matrix of equivalence is computed for the frequency 250 Hz. Data for mutual equivalence at other frequencies can be derived from the table of individual measurements. However, the data at 250 Hz is characteristic of frequencies up to 2 kHz.

Linking key comparison EUROMET.AUV.A-K1 to key comparison CCAUV.A-K1

NPL, DPLA and PTB provide the link between key comparisons CCAUV.A-K1 and EUROMET.AUV.A-K1.

The process involves calculating the average result of the linking participants at each frequency, in each comparison. The difference between the average result relative to the CCAUV.A-K1 key comparison reference value and relative to the EUROMET.AUV.A-K1 internal reference provides a linking factor d , which is used to convert the results relative to the EUROMET internal reference, so they become relative to the CCAUV.A-K1 key comparison reference value.

| Frequency | Average value of results from NPL/DPLA/PTB in EUROMET.AUV.A-K1 | Average value of results from NPL/DPLA/PTB in CCAUV.A-K1 | d |
|-----------|--|--|---------------|
| / Hz | / dB | / dB | / dB |
| 63 | -0.013 | 0.008 | 0.021 |
| 125 | 0.001 | 0.005 | 0.004 |
| 250 | 0.005 | 0.004 | -0.001 |
| 500 | 0.005 | 0.003 | -0.001 |
| 1000 | 0.002 | 0.009 | 0.007 |
| 1250 | -0.001 | 0.012 | 0.014 |
| 1600 | 0.003 | 0.013 | 0.009 |
| 2000 | 0.004 | 0.011 | 0.007 |
| 2500 | -0.002 | 0.013 | 0.015 |
| 3150 | 0.010 | 0.012 | 0.002 |
| 4000 | 0.014 | 0.014 | -0.001 |
| 5000 | 0.021 | 0.016 | -0.005 |
| 6300 | 0.034 | 0.019 | -0.015 |
| 8000 | 0.031 | 0.010 | -0.021 |
| 10000 | 0.004 | -0.006 | -0.010 |

At a given frequency, the degree of equivalence of one laboratory participant in EUROMET.AUV.A-K1 with respect to the key comparison reference value is given by a pair of terms: $D_i = (x_{i\text{-EUR}} + d)$, and its expanded uncertainty ($k = 2$), $U_i = 2(u_{i\text{-EUR}}^2 + u_R^2)^{1/2}$, both expressed in dB.

Full graphs of equivalence are given for frequencies 250 Hz and 1000 Hz.

At a given frequency, the degree of equivalence between two laboratories i and j is given by a pair of terms: $D_{ij} = (x_i - x_j)$, and its expanded uncertainty ($k = 2$), $U_{ij} = 2(u_i^2 + u_j^2)^{1/2}$, both expressed in dB.

The index i (or j) should be taken as $i\text{-EUR}$ (or $j\text{-EUR}$) when the corresponding laboratory has participated in EUROMET.AUV.A-K1 only.

The matrix of equivalence computed at frequency 250 Hz from results obtained in CCAUV.A-K1 is extended with pair-wise degrees of equivalence between participants having participated in EUROMET.AUV.A-K1 only.

The pair-wise degrees of equivalence between one laboratory participant in CCAUV.A-K1 and one laboratory participant in EUROMET.AUV.A-K1 only may be computed using the equations given above.

Other numbers are available from Annex A of the EUROMET.AUV.A-K1 Final Report.

Linking key comparison APMP.AUV.A-K1 to key comparison CCAUV.A-K1

NMIJ and KRISS provide the link between key comparisons CCAUV.A-K1 and APMP.AUV.A-K1. NMIA also took part in both key comparisons, but was not included as a linking laboratory because it used different equipments.

The process involves calculating the average result of the linking participants at each frequency, in each comparison. The difference between the average result relative to the CCAUV.A-K1 key comparison reference value and relative to the APMP.AUV.A-K1 internal reference provides a linking factor d , which is used to convert the results relative to the APMP internal reference, so they become relative to the CCAUV.A-K1 key comparison reference value.

| Frequency | Average value of results from NMIJ/KRISS in APMP.AUV.A-K1 | Average value of results from NMIJ/KRISS in CCAUV.A-K1 | d |
|-----------|---|--|--------|
| / Hz | / dB | / dB | / dB |
| 63 | 0.004 | 0.003 | -0.002 |
| 125 | 0.000 | 0.000 | 0.000 |
| 250 | -0.001 | -0.006 | -0.005 |
| 500 | 0.000 | -0.003 | -0.002 |
| 1000 | -0.002 | -0.003 | -0.002 |
| 1250 | -0.003 | -0.003 | 0.000 |
| 1600 | -0.005 | -0.004 | 0.001 |
| 2000 | -0.005 | -0.003 | 0.002 |
| 2500 | -0.010 | -0.006 | 0.004 |
| 3150 | -0.014 | -0.007 | 0.006 |
| 4000 | -0.016 | -0.010 | 0.007 |
| 5000 | -0.020 | -0.012 | 0.008 |
| 6300 | -0.027 | -0.026 | 0.001 |
| 8000 | -0.017 | -0.015 | 0.001 |

At a given frequency, the degree of equivalence of one laboratory participant in APMP.AUV.A-K1 with respect to the key comparison reference value is given by a pair of terms: $D_i = (x_{i-APMP} + d)$, and its expanded uncertainty ($k = 2$), $U_i \sim 2(u_{i-APMP}^2 + u_R^2)^{1/2}$, both expressed in dB.

The exact formula used to compute U_i is given in equation 12 on page 22 of the APMP.AUV.A-K1 Final Report.

Full graphs of equivalence are given for frequencies 250 Hz and 1000 Hz.

At a given frequency, the degree of equivalence between two laboratories i and j is given by a pair of terms: $D_{ij} = (x_i - x_j)$, and its expanded uncertainty ($k = 2$), $U_{ij} = 2(u_i^2 + u_j^2)^{1/2}$, both expressed in dB.

The index i and j should be taken as i -APMP and j -APMP when both laboratories have participated in APMP.AUV.A-K1 only.

The formula to be used to compute U_{ij} for a pair composed of one participant in CCAUV.A-K1 and one participant in APMP.AUV.A-K1 is given in equation 18 on page 22 of the APMP.AUV.A-K1 Final Report.

The matrix of equivalence computed at frequency 250 Hz from results obtained in CCAUV.A-K1 and EUROMET.AUV.A-K1 is extended with pair-wise degrees of equivalence between laboratories having participated in APMP.AUV.A-K1 only.

Linking key comparison SIM.AUV.A-K1 to key comparison CCAUV.A-K1

NRC, NIST and CENAM provide the link between key comparisons CCAUV.A-K1 and SIM.AUV.A-K1, which is computed using a generalized linear least-squares method, as explained in Annex B on page 19 of the SIM.AUV.A-K1 Final Report.

At a given frequency, the degree of equivalence of one laboratory participant in SIM.AUV.A-K1 only, with respect to the CCAUV.A-K1 key comparison reference value, is given by a pair of terms: D_i and its expanded uncertainty ($k = 2$), U_i , both expressed in dB. These are computed as explained in Annex B of the SIM.AUV.A-K1 Final Report.

Full graphs of equivalence are given for frequencies 250 Hz and 1000 Hz.

At a given frequency, the degree of equivalence between two laboratories i and j is given by a pair of terms: D_{ij} , and its expanded uncertainty ($k = 2$), U_{ij} , both expressed in dB. These are computed as explained in Annex B of the SIM.AUV.A-K1 Final Report.

The matrix of equivalence computed at frequency 250 Hz from results obtained in CCAUV.A-K1, EUROMET.AUV.A-K1, and APMP.AUV.A-K1 is extended with pair-wise degrees of equivalence between laboratories having participated in SIM.AUV.A-K1 only.

Linking key comparison APMP.AUV.A-K1.1 to key comparison CCAUV.A-K1

KRISS provides the link between key comparisons CCAUV.A-K1 and APMP.AUV.A-K1.1. The linking process is explained in section 8 of the APMP.AUV.A-K1.1 Final Report.

At a given frequency, the degree of equivalence of KIM-LIPI participant in APMP.AUV.A-K1.1 only, with respect to the CCAUV.A-K1 key comparison reference value, is given by a pair of terms: D_i and its expanded uncertainty ($k = 2$), U_i , both expressed in dB. These are computed as explained in section 8 of the APMP.AUV.A-K1.1 Final Report.

Full graphs of equivalence are given for frequencies 250 Hz and 1000 Hz.

No pair-wise degrees of equivalence are computed between KIM-LIPI and participants in CCAUV.A-K1 and other linked key comparisons.

Linking key comparison COOMET.AUV.A-K1 to key comparison CCAUV.A-K1

GUM, PTB and VNIIFTRI provide the link between key comparisons CCAUV.A-K1 and COOMET.AUV.A-K1. The linking process is explained in section 6 of the COOMET.AUV.A-K1 Final Report.

At a given frequency, the degree of equivalence of one laboratory i participant in COOMET.AUV.A-K1 only, with respect to the CCAUV.A-K1 key comparison reference value, is given by a pair of terms: D_i and its expanded uncertainty ($k = 2$), U_i , both expressed in dB. These are computed as explained in section 6 of the COOMET.AUV.A-K1 Final Report.

Full graphs of equivalence are given for frequencies 250 Hz and 1000 Hz.

At a given frequency, the degree of equivalence between two laboratories i and j is given by a pair of terms: D_{ij} , and its expanded uncertainty ($k = 2$), U_{ij} , both expressed in dB. These are computed as explained in section 6 of the COOMET.AUV.A-K1 Final Report.

The matrix of equivalence computed at frequency 250 Hz from results obtained in CCAUV.A-K1, EUROMET.AUV.A-K1, APMP.AUV.A-K1, SIM.AUV.A-K1 and APMP.AUV.A-K1.1 is extended with pair-wise degrees of equivalence between laboratories having participated in COOMET.AUV.A-K1 only.

Linking key comparison COOMET.AUV.A-K1.1 to key comparison CCAUV.A-K1

PTB provides the link between key comparisons CCAUV.A-K1 and COOMET.AUV.A-K1.1. The linking process is explained in section 6 of the COOMET.AUV.A-K1.1 Final Report.

At a given frequency, the degree of equivalence of DNDI participant in COOMET.AUV.A-K1.1 only, with respect to the CCAUV.A-K1 key comparison reference value, is given by a pair of terms: D_i and its expanded uncertainty ($k = 2$), U_i , both expressed in dB. These are computed as explained in section 6 of the COOMET.AUV.A-K1.1 Final Report.

Full graphs of equivalence are given for frequencies 250 Hz and 1000 Hz.

No pair-wise degrees of equivalence involving DNDI are given here.

Key comparisons CCAUV.A-K1, EUROMET.AUV.A-K1, APMP.AUV.A-K1, SIM.AUV.A-K1, APMP.AUV.A-K1.1, COOMET.AUV.A-K1, and COOMET.AUV.A-K1.

Degrees of equivalence relative to the key comparison reference values

| Frequency Lab <i>i</i> | 63 Hz | | 125 Hz | | 250 Hz | | 500 Hz | | 1000 Hz | | 1250 Hz | | 1600 Hz | | 2000 Hz | |
|---------------------------|-------|-------|--------|-------|--------|-------|--------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i |
| | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB |
| NPL | 0.02 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.03 | 0.01 | 0.03 |
| CENAM | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| CSIR-NML | 0.01 | 0.05 | 0.01 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.01 | 0.05 |
| NMIA | - | - | - | - | 0.02 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | - | - | - | - | - | - |
| DPLA | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 |
| NMIJ | 0.00 | 0.05 | 0.00 | 0.04 | -0.01 | 0.04 | -0.01 | 0.04 | -0.01 | 0.04 | -0.02 | 0.04 | -0.01 | 0.04 | -0.02 | 0.04 |
| GUM | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| KRISS | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 |
| NIST | -0.01 | 0.04 | 0.00 | 0.04 | -0.01 | 0.04 | 0.00 | 0.04 | -0.02 | 0.04 | -0.02 | 0.04 | -0.02 | 0.04 | -0.02 | 0.04 |
| NRC | -0.04 | 0.04 | -0.04 | 0.04 | -0.04 | 0.03 | -0.04 | 0.04 | -0.03 | 0.04 | -0.03 | 0.04 | -0.03 | 0.04 | -0.03 | 0.04 |
| PTB | 0.00 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.03 | 0.01 | 0.03 |
| VNIIFTRI | -0.01 | 0.07 | 0.00 | 0.05 | 0.00 | 0.05 | 0.00 | 0.05 | 0.00 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 |
| BEV | 0.00 | 0.06 | 0.00 | 0.03 | -0.01 | 0.03 | -0.01 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | -0.01 | 0.03 | -0.01 | 0.03 |
| SP | 0.02 | 0.05 | 0.01 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.02 | 0.04 | 0.02 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 |
| IEN | 0.00 | 0.05 | 0.00 | 0.05 | -0.01 | 0.05 | 0.00 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.02 | 0.05 | -0.02 | 0.05 |
| UME | 0.05 | 0.05 | 0.03 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.06 | 0.05 | 0.06 | 0.05 | 0.06 | 0.05 | 0.07 | 0.05 |
| METAS | -0.01 | 0.04 | -0.02 | 0.03 | -0.01 | 0.03 | -0.02 | 0.03 | -0.02 | 0.03 | - | - | -0.01 | 0.03 | -0.03 | 0.03 |
| SMU | 0.04 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.02 | 0.04 | 0.02 | 0.04 | 0.02 | 0.04 | 0.01 | 0.04 | 0.02 | 0.04 |
| OMH | 0.05 | 0.07 | 0.04 | 0.07 | 0.03 | 0.07 | 0.02 | 0.07 | 0.01 | 0.07 | 0.00 | 0.07 | 0.00 | 0.07 | 0.00 | 0.07 |
| CMI | - | - | -0.03 | 0.03 | -0.04 | 0.03 | -0.04 | 0.03 | -0.03 | 0.03 | - | - | - | - | - | - |
| NMIA | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 |
| CMS/ITRI | 0.00 | 0.04 | 0.02 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 |
| NIM | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | -0.01 | 0.05 | 0.00 | 0.05 |
| NIMT | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 |
| NML-SIRIM | 0.00 | 0.04 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.01 | 0.03 |
| NPLI | -0.02 | 0.07 | -0.02 | 0.07 | -0.02 | 0.07 | -0.02 | 0.07 | -0.02 | 0.07 | -0.01 | 0.07 | -0.01 | 0.07 | -0.01 | 0.07 |
| SCL | 0.00 | 0.05 | 0.00 | 0.05 | -0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 |
| INMETRO | - | - | -0.06 | 0.05 | -0.04 | 0.05 | -0.04 | 0.05 | -0.04 | 0.05 | - | - | - | - | -0.05 | 0.05 |
| INTI | - | - | -0.03 | 0.05 | -0.02 | 0.05 | -0.02 | 0.05 | -0.02 | 0.05 | - | - | - | - | -0.02 | 0.05 |
| KIM-LIPI | 0.00 | 0.08 | -0.01 | 0.08 | -0.01 | 0.08 | 0.00 | 0.08 | -0.01 | 0.08 | 0.00 | 0.08 | 0.00 | 0.08 | 0.00 | 0.08 |
| UME | 0.00 | 0.06 | 0.02 | 0.06 | 0.02 | 0.06 | 0.03 | 0.06 | 0.02 | 0.06 | 0.00 | 0.06 | 0.01 | 0.06 | 0.01 | 0.06 |
| SMU | 0.02 | 0.05 | 0.01 | 0.05 | 0.01 | 0.05 | 0.01 | 0.05 | 0.01 | 0.05 | 0.01 | 0.05 | 0.01 | 0.05 | 0.01 | 0.05 |
| DNDI | 0.01 | 0.06 | 0.02 | 0.06 | 0.02 | 0.06 | 0.01 | 0.06 | 0.01 | 0.06 | 0.00 | 0.06 | 0.02 | 0.06 | 0.01 | 0.06 |

Note: Many of the values for U_i appear to be the same as the corresponding value for $2u_i$ in the tables of individual measurements. This is due to the variation in uncertainty u_i being small between participants, the relatively low value of u_R compared to u_i , and the rounding of the data to two decimal places that has been adopted in the tables. If the data were expressed with greater precision it would be apparent that they have different numerical values.

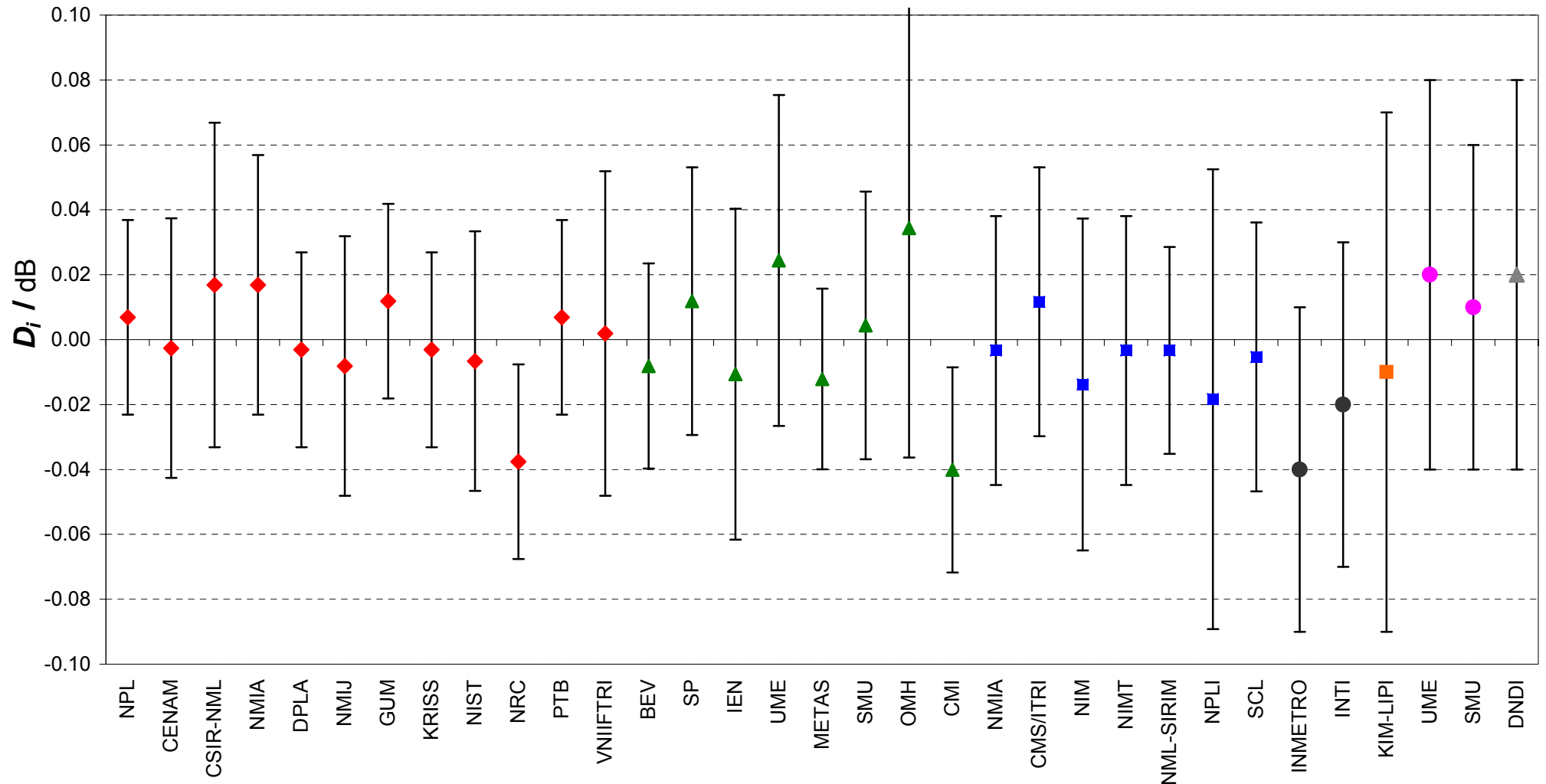
Key comparisons CCAUV.A-K1, EUROMET.AUV.A-K1, APMP.AUV.A-K1, SIM.AUV.A-K1, APMP.AUV.A-K1.1, COOMET.AUV.A-K1, and COOMET.AUV.A-K1.

Degrees of equivalence relative to the key comparison reference values

| Frequency Lab <i>i</i> | 2500 Hz | | 3150 Hz | | 4000 Hz | | 5000 Hz | | 6300 Hz | | 8000 Hz | |
|---------------------------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i | D_i | U_i |
| | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB | / dB |
| NPL | 0.02 | 0.03 | 0.02 | 0.04 | 0.02 | 0.04 | 0.01 | 0.05 | 0.02 | 0.05 | 0.03 | 0.05 |
| CENAM | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.05 | 0.02 | 0.05 | 0.01 | 0.06 | -0.01 | 0.09 |
| CSIR-NML | 0.02 | 0.05 | 0.01 | 0.05 | 0.01 | 0.06 | 0.01 | 0.07 | 0.03 | 0.06 | 0.02 | 0.07 |
| NMIA | - | - | - | - | - | - | - | - | - | - | - | - |
| DPLA | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.04 | 0.03 | 0.05 | 0.01 | 0.06 |
| NMIJ | -0.03 | 0.04 | -0.03 | 0.04 | -0.04 | 0.04 | -0.05 | 0.05 | -0.06 | 0.06 | -0.05 | 0.06 |
| GUM | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.04 | 0.01 | 0.05 | 0.02 | 0.05 | 0.04 | 0.05 |
| KRISS | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.01 | 0.04 | 0.02 | 0.04 |
| NIST | -0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | 0.00 | 0.04 | -0.01 | 0.11 |
| NRC | -0.03 | 0.04 | -0.03 | 0.04 | -0.04 | 0.04 | -0.04 | 0.04 | -0.04 | 0.04 | -0.05 | 0.04 |
| PTB | 0.02 | 0.03 | 0.01 | 0.03 | 0.01 | 0.03 | 0.02 | 0.05 | 0.02 | 0.05 | -0.01 | 0.05 |
| VNIFTRI | -0.02 | 0.05 | -0.02 | 0.05 | -0.03 | 0.06 | -0.03 | 0.08 | -0.02 | 0.13 | 0.02 | 0.21 |
| BEV | -0.01 | 0.03 | -0.01 | 0.03 | -0.02 | 0.03 | -0.04 | 0.04 | -0.07 | 0.05 | -0.11 | 0.06 |
| SP | 0.00 | 0.04 | 0.00 | 0.05 | 0.00 | 0.05 | -0.01 | 0.06 | 0.00 | 0.07 | 0.01 | 0.10 |
| IEN | -0.01 | 0.05 | -0.02 | 0.05 | -0.03 | 0.05 | -0.03 | 0.05 | -0.04 | 0.05 | 0.02 | 0.05 |
| UME | 0.07 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.10 | -0.02 | 0.10 | -0.05 | 0.10 |
| METAS | - | - | 0.00 | 0.03 | 0.00 | 0.03 | - | - | -0.01 | 0.05 | -0.03 | 0.05 |
| SMU | 0.04 | 0.04 | - | - | - | - | - | - | - | - | - | - |
| OMH | 0.00 | 0.07 | -0.01 | 0.07 | -0.02 | 0.07 | -0.03 | 0.07 | -0.05 | 0.07 | -0.06 | 0.07 |
| CMI | - | - | - | - | - | - | - | - | - | - | - | - |
| NMIA | 0.01 | 0.04 | 0.02 | 0.04 | 0.02 | 0.04 | 0.02 | 0.04 | 0.02 | 0.06 | 0.01 | 0.07 |
| CMS/ITRI | 0.01 | 0.04 | 0.01 | 0.04 | 0.02 | 0.04 | 0.02 | 0.06 | 0.01 | 0.06 | -0.02 | 0.07 |
| NIM | 0.00 | 0.05 | 0.00 | 0.05 | 0.01 | 0.05 | -0.01 | 0.06 | -0.02 | 0.06 | -0.01 | 0.07 |
| NIMT | 0.01 | 0.04 | 0.01 | 0.04 | 0.02 | 0.04 | 0.01 | 0.04 | 0.00 | 0.04 | 0.00 | 0.07 |
| NML-SIRIM | 0.01 | 0.03 | 0.01 | 0.03 | 0.01 | 0.04 | 0.02 | 0.05 | 0.03 | 0.06 | 0.04 | 0.08 |
| NPLI | 0.00 | 0.07 | 0.00 | 0.07 | 0.01 | 0.07 | 0.03 | 0.07 | 0.02 | 0.07 | 0.04 | 0.08 |
| SCL | 0.00 | 0.04 | 0.01 | 0.04 | 0.01 | 0.04 | 0.00 | 0.05 | -0.01 | 0.06 | -0.01 | 0.07 |
| INMETRO | - | - | - | - | -0.05 | 0.07 | - | - | - | - | -0.04 | 0.12 |
| INTI | - | - | - | - | -0.02 | 0.09 | - | - | - | - | -0.05 | 0.11 |
| KIM-LIPI | 0.01 | 0.08 | 0.00 | 0.09 | 0.01 | 0.10 | 0.00 | 0.11 | -0.01 | 0.12 | -0.03 | 0.12 |
| UME | 0.00 | 0.06 | 0.01 | 0.07 | -0.01 | 0.07 | 0.00 | 0.08 | 0.00 | 0.09 | 0.04 | 0.10 |
| SMU | 0.01 | 0.05 | - | - | - | - | - | - | - | - | - | - |
| DNDI | 0.02 | 0.06 | 0.01 | 0.06 | 0.01 | 0.06 | 0.01 | 0.08 | 0.00 | 0.09 | -0.04 | 0.11 |

Note: Many of the values for U_i appear to be the same as the corresponding value for $2u_i$ in the tables of individual measurements. This is due to the variation in uncertainty u_i being small between participants, the relatively low value of u_R compared to u_i , and the rounding of the data to two decimal places that has been adopted in the tables. If the data were expressed with greater precision it would be apparent that they have different numerical values.

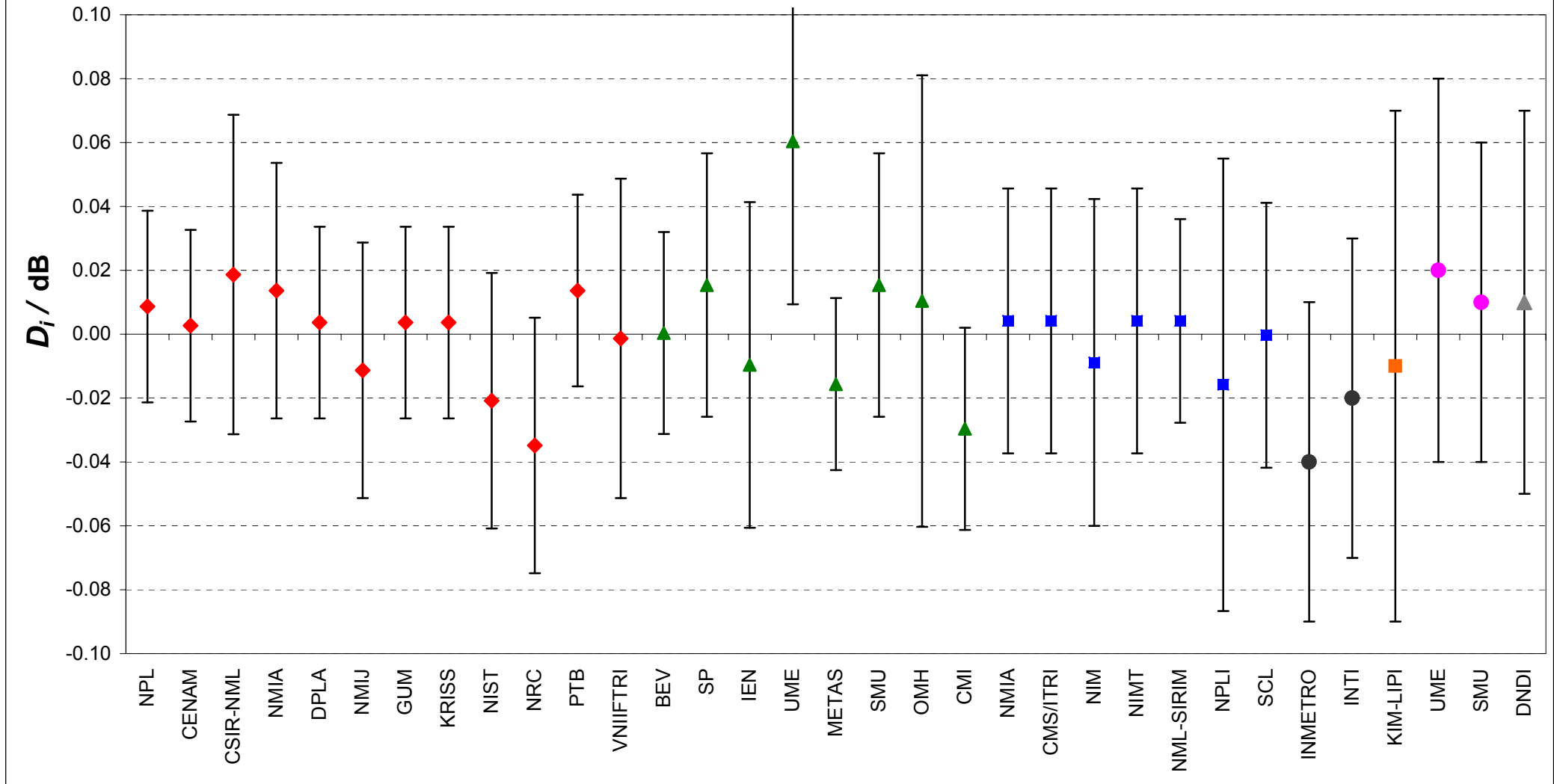
**CCAUV.A-K1, and EUROMET, APMP, and SIM.AUV.A-K1, APMP.AUV.A-K1.1, COOMET.AUV.A-K1, and
COOMET.AUV.A-K1.1 - Microphone LS1P, frequency 250 Hz
Degrees of equivalence [D_i and its expanded uncertainty U_i ($k = 2$)]**



Red diamonds : CCAUV.A-K1 participants
Green triangles : EUROMET.AUV.A-K1 participants only
Blue squares : APMP.AUV.A-K1 participants only
Black circles : SIM.AUV.A-K1 participants only

Orange square : APMP.AUV.A-K1.1 participant only
Pink circles : COOMET.AUV.A-K1 participants only
Grey triangle : COOMET.AUV.A-K1.1 participant only

CCAUV.A-K1, and EUROMET, APMP, and SIM.AUV.A-K1, APMP.AUV.A-K1.1, COOMET.AUV.A-K1, and
 COOMET.AUV.A-K1.1 - Microphone LS1P, frequency 1000 Hz
 Degrees of equivalence [D_i and its expanded uncertainty U_i ($k = 2$)]



- Red diamonds : CCAUV.A-K1 participants
- Green triangles : EUROMET.AUV.A-K1 participants only
- Blue squares : APMP.AUV.A-K1 participants only
- Black circles : SIM.AUV.A-K1 participants only
- Orange square : APMP.AUV.A-K1.1 participant only
- Pink circles : COOMET.AUV.A-K1 participants only
- Grey triangle : COOMET.AUV.A-K1.1 participant only

Key comparisons CCAUV.A-K1, EUROMET, APMP, and SIM.AUV.A-K1, APMP.AUV.A-K1.1, and COOMET.AUV.A-K1 and K1.1

Frequency: 250 Hz

Matrix of equivalence (Continued)

Lab *i* ↓

Lab *j* →

| | D_i | U_i | GUM | | KRISS | | NIST | | NRC | | PTB | | VNIIFTRI | |
|-----------|-------|-------|----------|----------|----------|----------|----------|----------|--------------|----------|----------|----------|----------|----------|
| | / dB | / dB | D_{ij} | U_{ij} | D_{ij} | U_{ij} | D_{ij} | U_{ij} | D_{ij} | U_{ij} | D_{ij} | U_{ij} | D_{ij} | U_{ij} |
| NPL | 0.01 | 0.03 | -0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.05 | 0.04 | 0.04 | 0.00 | 0.04 | 0.01 | 0.06 |
| CENAM | 0.00 | 0.04 | -0.01 | 0.05 | 0.00 | 0.05 | 0.00 | 0.06 | 0.04 | 0.05 | -0.01 | 0.05 | 0.00 | 0.06 |
| CSIR-NML | 0.02 | 0.05 | 0.00 | 0.06 | 0.02 | 0.06 | 0.02 | 0.07 | 0.05 | 0.06 | 0.01 | 0.06 | 0.02 | 0.07 |
| NMIA | 0.02 | 0.04 | 0.00 | 0.05 | 0.02 | 0.05 | 0.02 | 0.06 | 0.05 | 0.05 | 0.01 | 0.05 | 0.02 | 0.06 |
| DPLA | 0.00 | 0.03 | -0.02 | 0.04 | 0.00 | 0.04 | 0.00 | 0.05 | 0.03 | 0.04 | -0.01 | 0.04 | -0.01 | 0.06 |
| NMIJ | -0.01 | 0.04 | -0.02 | 0.05 | -0.01 | 0.05 | 0.00 | 0.06 | 0.03 | 0.05 | -0.02 | 0.05 | -0.01 | 0.06 |
| GUM | 0.01 | 0.03 | | | 0.02 | 0.04 | 0.02 | 0.05 | 0.05 | 0.04 | 0.01 | 0.04 | 0.01 | 0.06 |
| KRISS | 0.00 | 0.03 | -0.02 | 0.04 | | | 0.00 | 0.05 | 0.03 | 0.04 | -0.01 | 0.04 | 0.00 | 0.06 |
| NIST | -0.01 | 0.04 | -0.02 | 0.05 | 0.00 | 0.05 | | | 0.03 | 0.05 | -0.01 | 0.05 | -0.01 | 0.07 |
| NRC | -0.04 | 0.03 | -0.05 | 0.04 | -0.03 | 0.04 | -0.03 | 0.05 | | | -0.04 | 0.04 | -0.04 | 0.06 |
| PTB | 0.01 | 0.03 | -0.01 | 0.04 | 0.01 | 0.04 | 0.01 | 0.05 | 0.04 | 0.04 | | | 0.01 | 0.06 |
| VNIIFTRI | 0.00 | 0.05 | -0.01 | 0.06 | 0.00 | 0.06 | 0.01 | 0.07 | 0.04 | 0.06 | -0.01 | 0.06 | | |
| BEV | -0.01 | 0.03 | | | | | | | | | | | | |
| SP | 0.01 | 0.04 | | | | | | | | | | | | |
| IEN | -0.01 | 0.05 | | | | | | | | | | | | |
| UME | 0.02 | 0.05 | | | | | | | | | | | | |
| METAS | -0.01 | 0.03 | | | | | | | Not computed | | | | | |
| SMU | 0.00 | 0.04 | | | | | | | | | | | | |
| OMH | 0.03 | 0.07 | | | | | | | | | | | | |
| CMI | -0.04 | 0.03 | | | | | | | | | | | | |
| NMIA | 0.00 | 0.04 | | | | | | | | | | | | |
| CMS/ITRI | 0.01 | 0.04 | | | | | | | | | | | | |
| NIM | -0.01 | 0.05 | | | | | | | | | | | | |
| NIMT | 0.00 | 0.04 | | | | | | | | | | | | |
| NML-SIRIM | 0.00 | 0.03 | | | | | | | Not computed | | | | | |
| NPLI | -0.02 | 0.07 | | | | | | | | | | | | |
| SCL | -0.01 | 0.04 | | | | | | | | | | | | |
| INMETRO | -0.04 | 0.05 | | | | | | | Not computed | | | | | |
| INTI | -0.02 | 0.05 | | | | | | | | | | | | |
| KIM-LIPI | -0.01 | 0.08 | | | | | | | Not computed | | | | | |
| UME | 0.02 | 0.06 | | | | | | | | | | | | |
| SMU | 0.01 | 0.05 | | | | | | | Not computed | | | | | |
| DNDI | 0.02 | 0.06 | | | | | | | Not computed | | | | | |

Key comparisons CCAUV.A-K1, EUROMET, APMP, and SIM.AUV.A-K1, APMP.AUV.A-K1.1, and COOMET.AUV.A-K1 and K1.1

Frequency: 250 Hz

Matrix of equivalence (Continued)

Lab *i* ↓

Lab *j* →

| | <i>D_i</i> / dB | | <i>U_i</i> / dB | | NML-SIRIM | | NPLI | | SCL | | INMETRO | | INTI | | UME | | SMU | |
|-----------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB | <i>D_{ij}</i> / dB | <i>U_{ij}</i> / dB |
| NPL | 0.01 | 0.03 | | | | | | | | | | | | | | | | |
| CENAM | 0.00 | 0.04 | | | | | | | | | | | | | | | | |
| CSIR-NML | 0.02 | 0.05 | | | | | | | | | | | | | | | | |
| NMIA | 0.02 | 0.04 | | | | | | | | | | | | | | | | |
| DPLA | 0.00 | 0.03 | | | | | | | | | | | | | | | | |
| NMIJ | -0.01 | 0.04 | | | Not computed | | | | Not computed | | | | Not computed | | | | | |
| GUM | 0.01 | 0.03 | | | | | | | | | | | | | | | | |
| KRISS | 0.00 | 0.03 | | | | | | | | | | | | | | | | |
| NIST | -0.01 | 0.04 | | | | | | | | | | | | | | | | |
| NRC | -0.04 | 0.03 | | | | | | | | | | | | | | | | |
| PTB | 0.01 | 0.03 | | | | | | | | | | | | | | | | |
| VNIFTRI | 0.00 | 0.05 | | | | | | | | | | | | | | | | |
| BEV | -0.01 | 0.03 | | | | | | | | | | | | | | | | |
| SP | 0.01 | 0.04 | | | | | | | | | | | | | | | | |
| IEN | -0.01 | 0.05 | | | | | | | | | | | | | | | | |
| UME | 0.02 | 0.05 | | | Not computed | | | | Not computed | | | | Not computed | | | | | |
| METAS | -0.01 | 0.03 | | | | | | | | | | | | | | | | |
| SMU | 0.00 | 0.04 | | | | | | | | | | | | | | | | |
| OMH | 0.03 | 0.07 | | | | | | | | | | | | | | | | |
| CMI | -0.04 | 0.03 | | | | | | | | | | | | | | | | |
| NMIA | 0.00 | 0.04 | 0.00 | 0.05 | 0.01 | 0.08 | 0.00 | 0.06 | | | | | | | | | | |
| CMS/ITRI | 0.01 | 0.04 | 0.02 | 0.05 | 0.03 | 0.08 | 0.02 | 0.06 | | | | | | | | | | |
| NIM | -0.01 | 0.05 | -0.01 | 0.06 | 0.00 | 0.09 | -0.01 | 0.06 | | | | | | | | | | |
| NIMT | 0.00 | 0.04 | 0.00 | 0.05 | 0.01 | 0.08 | 0.00 | 0.06 | | | | | | | | | | |
| NML-SIRIM | 0.00 | 0.03 | | | 0.01 | 0.08 | 0.00 | 0.05 | Not computed | | | | Not computed | | | | | |
| NPLI | -0.02 | 0.07 | -0.01 | 0.08 | | | -0.01 | 0.08 | | | | | | | | | | |
| SCL | -0.01 | 0.04 | 0.00 | 0.05 | 0.01 | 0.08 | | | | | | | | | | | | |
| INMETRO | -0.04 | 0.05 | | | Not computed | | | | | | | | -0.03 | 0.07 | | | | |
| INTI | -0.02 | 0.05 | | | | | | | 0.03 | 0.07 | | | | | | | | |
| KIM-LIPI | -0.01 | 0.08 | | | Not computed | | | | | | | | | | | | | |
| UME | 0.02 | 0.06 | | | Not computed | | | | | | | | | | | | | |
| SMU | 0.01 | 0.05 | | | | | | | | | | | | | | | | |
| DNDI | 0.02 | 0.06 | | | Not computed | | | | | | | | | | | | | |